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8/31/82

# SITE INSPECTION OF
# LENOX, INC.
# POMONA, NEW JERSEY

Prepared for:

U.S. Environmental Protection Agency
Region II
New York, New York

EPA Contract Number 68-01-6515

Work Assignment R02-002

Prepared by:

Ertec Atlantic, Inc.
15 Campus Drive, Suite 100
Somerset, New Jersey 08873

CAS2—August, 1982



GROUND-WATER MONITORING INSPECTION
LENOX, INC.
NJD002325074
POMONA, NEW JERSEY

ALBERT J. GUSTRAY/DIRECTOR FACILITIES ENGINEERING

INSPECTION DATE: 31 AUGUST 1982
INSPECTOR'S NAME: J. TORLUCCI, JR.

## 1.0 INTRODUCTION

The Lenox, Inc. facility, located in Pomona, New Jersey, was inspected for compliance with the ground-water monitoring requirements of the Resource Conservation and Recovery Act (RCRA) promulgated in 40 CFR 265.90-265.94. Company personnel have contracted the consulting firms of Geraghty and Miller, Inc. and New Jersey First, Inc. for the development of a ground-water monitoring program to be implemented in accordance with federal and state regulations.

The Lenox facility has produced china since inception of operation in the early 1950's. The waste-water discharge contains lead-laden particles. Glaze from glaze preparation and application operations were deposited into a basin, termed the Glaze Basin, during a span of approximately 16 years (1954 to approximately 1970). The company intends to remove and recycle material from the Glaze Basin to reclaim lead.

Following the abandonment of the Glaze Basin, the Slip Basin, which received glaze from 1970 to 1981, began operation. Internal process changes presently allow for the recycling of all glaze within the plant.

Presently, waste water passes through a flocculator, which utilizes calcium sulfate as a flocculant, and is subjected to vacuum filtering and treatment. The waste water overflows to the Slip Basin where the clays are allowed to settle. The sludge, which consists of 30 to 36 percent solids, is continuously dredged and treated prior to off-site disposal.

The lead concentration of the pre-treated sludge typically ranges from 10 to 40 parts per million (ppm). The treated sludge has lead concentrations of less than 1 ppm, below the EP toxicity value.

The water in the Slip Basin is decanted and allowed to flow to the polishing lagoon from which it is discharged to surface water in accordance with the facility's NPDES permit.

## 2.0 HYDROGEOLOGIC FRAMEWORK AND GROUND-WATER MONITORING

The Lenox facility is located in the Coastal Plain Province, characterized by a low-lying topography which slopes gently toward the Atlantic Ocean. The Cohansey Sand Formation comprises the upper 150 to 200 feet of the strata in the region with the exception of a veneer of Quarternary deposits. According to boring logs compiled by A.C. Schultes and Sons for the two wells drilled on-site, the Cohansey Formation is up to 180 feet thick, at its lowermost interface with the Kirkwood Formation.

The Cohansey Formation is a major aquifer in the coastal area, often producing industrial-type quantities of water from various zones. Two on-site pumping wells are completed in this aquifer. Used on an alternate-week basis, these wells produce water at an average of 150,000 to 200,000 gallons per day (gpd).

Ground-water monitoring, provided through sampling of the two pumping wells, was initiated in 1967. Samples are analyzed for the parameters listed in Table 1 semi-annually and for a more extensive list of parameters on an annual basis. Analyses conducted by Century Laboratories of Thorofare, New Jersey, conclude that ground-water contamination, within detectable limits, is not evident within the ddep zones of the Cohansey aquifer. This sampling program, however, does not provide a viable means of monitoring and detecting shallow ground-water contamination.

The inactive Glaze Basin is recognized as a potential source of ground-water contamination. In November 1980, the western portion of the basin was excavated and five cores were taken of the substrate. Analysis of the core samples has shown that lead concentrations decrease with depth. Reportedly, the basin is located within anaerobic bog material which produces hydrogen sulfide, capable of altering the lead cycle by precipitation of lead sulfide. Precipitation of lead sulfide may fully attenuate the lead, therefore preventing ground-water contamination. The available data can not corroborate the absence of ground-water

TABLE 1

GROUND-WATER ANALYSIS PARAMETERS

pH

Barium

Lead

Specific Conductance

Total Organic Carbon

Total Organic Halogen

contamination; a ground-water monitoring system as required by 40 CFR, Subpart F would help ascertain the ground-water quality in the uppermost aquifer beneath the facility.

## 3.0 PROPOSED GROUND-WATER MONITORING

Lenox, Inc. has contracted Geraghty and Miller, Inc. and New Jersey First, Inc. to develop a ground-water monitoring program, capable of monitoring the facility's impact on the ground-water quality of the uppermost aquifer underlying the site, in accordance with federal and state regulations.

Two potential sources of ground-water contamination are located on-site: the inactive Glaze Basin and currently active Slip Basin. The monitoring system, to be established by Geraghty and Miller, Inc., will be designed to monitor both of these facilities.

According to Geraghty and Miller personnel, ground water occurs at depths as shallow as 7 to 10 feet. The wells will be constructed so as to monitor ground water at depths of 10 to 20 feet below land surface, within the uppermost aquifer.

The ground-water monitoring system will be implemented in two phases. The initial phase, Phase I, provides for determination of the ground-water flow direction. Based on the perceived local hydrology, ground-water flow is likely to trend toward the east-northeast. Two monitoring wells will be placed "down-gradient" of the basins and, one in the "upgradient" direction (Figure 1).

The wells are to be equipped with continuous water-level recorders. After one month, the water levels will be evaluated in order to ascertain the ground-water flow direction. At least one (if the assumed ground-water flow direction is correct) or possibly as many as three additional wells will be installed as part of Phase II.

Sampling and analysis, as outlined in 40 CFR 265.92, will be initiated following completion of Phase II. Geraghty and Miller, Inc. will be responsible

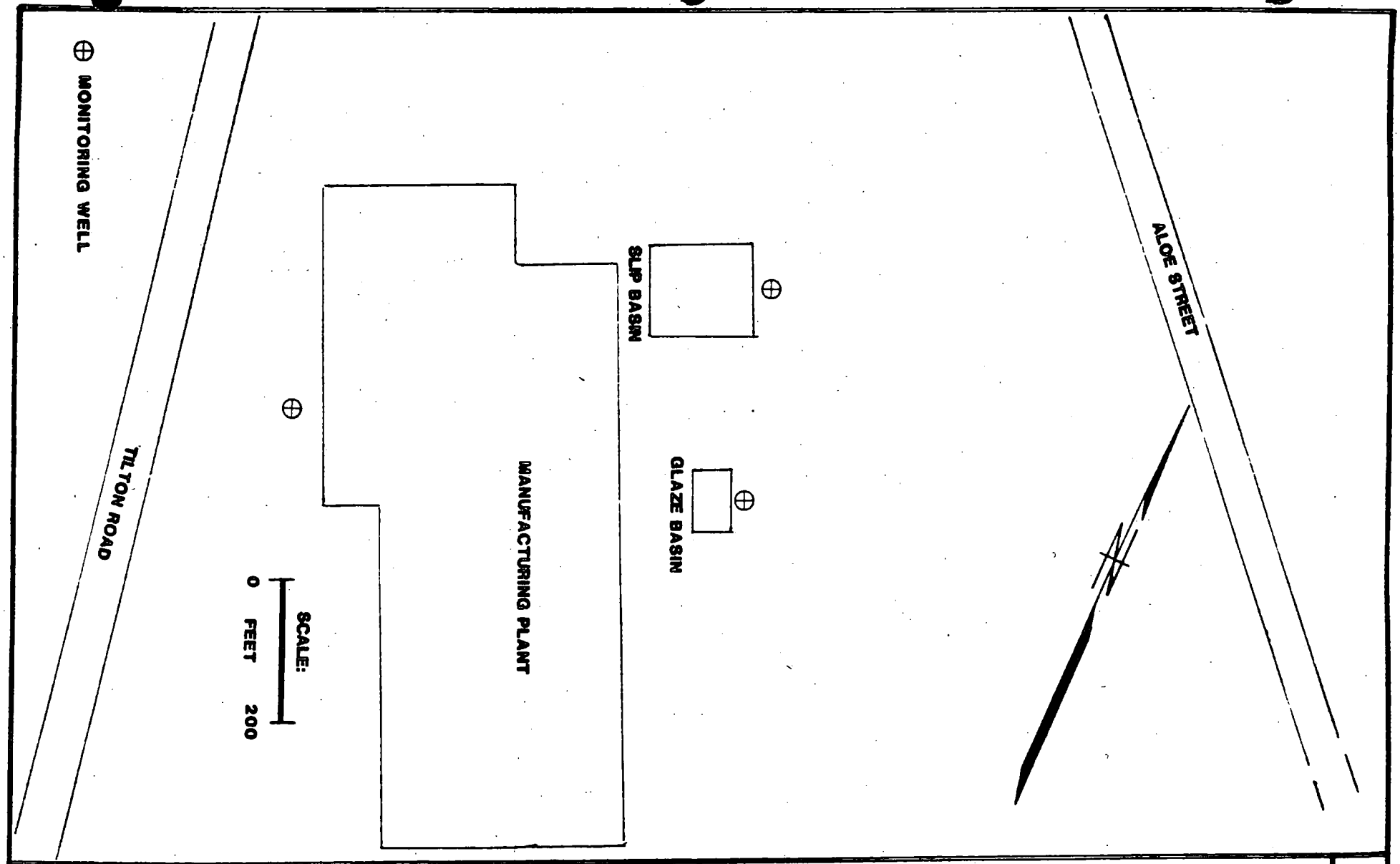


FIGURE 1

PROPOSED PHASE 1

MONITORING WELL LOCATIONS

for contracting a laboratory to monitor ground-water quality. Collection and analysis of samples taken from the pumping wells will continue at the present frequency.

The schedule of implementation, as presented in Table 2, has been developed by Lenox, New Jersey First, and Geraghty and Miller personnel.

Lenox, Inc. may petition the EPA for a variance of the ground-water monitoring parameters listed in 265.92. Although willing to conduct analyses for all of the required parameters, Lenox wishes to concentrate on the parameters which can theoretically migrate to ground water from the facility.

Geraghty and Miller personnel recognize the potential of lead attenuation by the production of hydrogen sulfide by the anaerobic bog material beneath the site. A waiver of the ground-water monitoring requirements may be sought if ground-water monitoring conclusively demonstrates that ground-water contamination has not resulted from the facility.

TABLE 2

GROUND-WATER MONITORING PROGRAM
IMPLEMENTATION SCHEDULE

| | |
|---|---|
| 9-17-82 | - Phase I - Installation of the 3 proposed monitoring wells |
| 9-30-82 | - Completion of the installation of the 3 proposed monitoring wells |
| | - Installation of water-level recorders |
| 10-31-82 | - Removal of water-level recorders |
| | - Phase II - Evaluation of water levels and installation of additional wells |
| 11-7-82 | - Completion of Phase II |
| 11-15-82 | - First quarterly sampling in accordance with 265.92 |

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APPENDIX A-1

FACILITY INSPECTION FORM FOR COMPLIANCE WITH INTERIM STATUS STANDARDS COVERING GROUND-WATER MONITORING

Company Name: Lenox Incorporated; EPA I.D. Number: NJD002325074

Company Address: Tilton Road; Inspector's Name: J. Torlucci, Jr.

Pomona, New Jersey

Company Contact/Official: A.J. Gustray; Branch/Organization: _____

Title: Director Facilities Engineering; Date of Inspection: 31 August 1982

| Type of facility: (check appropriately) | Yes | No | Unknown | Waived |
|---|---|---|---|---|
| a) surface impoundment | ✓ | | | |
| b) landfill | | ✓ | | |
| c) land treatment facility | | ✓ | | |
| d) disposal waste pile* | | ✓ | | |
| **Ground-Water Monitoring Program** | | | | |
| 1. Was the ground-water monitoring program reviewed prior to site visit? If "No", | ✓ | | | |
| a) Was the ground-water program reviewed at the facility prior to site inspection? | N/A | | | |
| 2. Has a ground-water monitoring program (capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility) been implemented? 265.90(a) | | ✓** | | |

*Listed separate from landfill for convenience of identification.

** A ground-water monitoring system which would meet RCRA requirements is planned to be established by Geraghty and Miller Inc recently contracted by Lenox.

| | Yes | No | Unknown | Waived |
|---|---|---|---|---|
| 3. Has at least one monitoring well been installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 265.91(a)(1) | ___ | ✓ * | | ___ |
| a) Are ground-water samples from the uppermost aquifer, representative of background ground-water quality and not affected by the facility (as ensured by proper well number, locations and depths?) | ___ | N/A | | |
| 4. Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 265.91(a)(2) | ___ | ✓ * | | |
| a) Do well number, locations and depths ensure prompt detection of any statistically significant amounts of HW or HW constituents that migrate from the waste management area to the uppermost aquifer? | ___ | N/A | | ___ |
| 5. Have the locations of the waste management areas been verified to conform with information in the ground-water program? | ✓ | ___ | ___ | |
| a) If the facility contains multiple waste management components, is each component adequately monitored? | ___ | ✓ | | |
| 6. Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program? If "No", explain discrepancies. | ✓ * | ___ | ___ | |
| 7. Well completion details. 265.91(c) | | | | |
| a) Are wells properly cased? | ✓ | ___ | ___ | |
| b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths? | ___ | ___ | ✓ | |
| c) Are annular spaces properly sealed to prevent contamination of ground-water? | ___ | ___ | ✓ | |

* The wells which are presently monitored are pumping wells which are completed ~200 feet below land surface into high-water-yielding zones within the Cohansey Formation. These wells are not suitable for use as ground-water monitoring wells as required by 265.91(a).

| | Yes | No | Unknown |
|---|---|---|---|
| 8. Has a ground-water sampling and analysis plan been developed? 265.92(a) | ____ | ✓ | ____ |
| a) Has it been followed? | ____ | N/A | ____ |
| b) Is the plan kept at the facility? | ____ | N/A | ____ |
| c) Does the plan include procedures and techniques for: | | | |
| 1) Sample collection? | ____ | N/A | |
| 2) Sample preservation? | ____ | N/A | |
| 3) Sample shipment? | ____ | N/A | |
| 4) Analytical procedures? | ____ | N/A | |
| 5) Chain of custody control? | ____ | N/A | |
| 9. Are the required parameters in ground-water samples being tested quarterly for the first year? 265.92(b) and 265.92 (c)(1) | ____ | ✓ | |
| a) Are the ground-water samples analyzed for the following: | | | |
| 1) Parameters characterizing the suitability of the ground-water as a drinking water supply? 265.92(b)(1) | ____ | N/A | |
| 2) Parameters establishing ground-water quality? 265.92(b)(2) | ____ | N/A | |
| 3) Parameters used as indicators of ground-water contamination? 265.92(b)(3) | ____ | N/A | |
| (i) For each indicator parameter are at least four replicate measurements obtained at each upgradient well for each sample obtained during the first year of monitoring? 265.92(c)(2) | ____ | N/A | |
| (ii) Are provisions made to calculate the initial background arithmetic mean and variance of the respective parameter concentrations or values obtained from the upgradient well(s) during the first year? 265.92(c)(2) | ____ | N/A | |
| b) For facilities which have completed first year ground-water sampling and analysis requirements: | | | |
| 1) Have samples been obtained and analyzed for the ground-water quality parameters at least annually? 265.92(d)(1) | N/A | ____ | |
| 2) Have samples been obtained and analyzed for the indicators of ground-water contamination at least semi-annually? 265.92(d)(2) | N/A | ____ | |

| | Yes | No | Unknown |
|---|---|---|---|
| c) Were ground-water surface elevations determined at each monitoring well each time a sample was taken? 265.92(e) | N/A | ____ | |
| d) Were the ground-water surface elevations evaluated annually to determine whether the monitoring wells are properly placed? 265.93(f) | N/A | ____ | |
| e) If it was determined that modification of the number, location or depth of monitoring wells was necessary, was the system brought into compliance with 265.91(a)? 265.93(f) | N/A | ____ | |
| 10. Has an outline of a ground-water quality assessment program been prepared? 265.93(a)* | ____ | ✓ | |
| a) Does it describe a program capable of determining: | | | |
| 1) Whether hazardous waste or hazardous waste constituents have entered the ground water? | ____ | N/A | |
| 2) The rate and extent of migration of hazardous waste or hazardous waste constituents in ground water? | ____ | N/A | |
| 3) Concentrations of hazardous waste or hazardous waste constituents in ground water? | ____ | N/A | |
| b) After the first year of monitoring, have at least four replicate measurements of each indicator parameter been obtained for samples taken for each well? 265.93(b) | ____ | N/A | |
| 1) Were the results compared with the initial background means from the upgradient well(s) determined during the first year? | ____ | N/A | |
| (i) Was each well considered individually? | ____ | N/A | |
| (ii) Was the Student's t-test used (at the 0.01 level of significance)? | ____ | N/A | |
| 2) Was a significant increase (or pH decrease as well) found in the: | | | |
| (i) Upgradient wells | ____ | N/A | |
| (ii) Downgradient wells | ____ | N/A | |
| If "Yes", Compliance Checklist A-2 must also be completed. | | | |

*See note Page 2-10

| | Yes | No | Unknown |
|---|---|---|---|
| 11. Have records been kept of analyses for parameters in 265.92(c) and (d)? 265.94(a)(1) | ____ | N/A | |
| 12. Have records been kept of ground-water surface elevations taken at the time of sampling for each well? 265.94(a)(1) | ____ | N/A | |
| 13. Have records been kept of required elevations in 265.93(b)? 265.94(a)(1) | ____ | N/A | |
| 14. Have the following been submitted to the Regional Administrator 265.94(a)(2) :* | | | |
| a) Initial background concentrations of parameters listed in 265.92(b) within 15 days after completing each quarterly analysis required during the first year? | ____ | N/A | |
| b) For each well, have any parameters whose concentrations or values have exceeded the maximum contaminant levels allowed in drinking water supplies been separately identified? | ____ | N/A | |
| c) Annual reports including: | | | |
| 1) Concentrations or values of parameters used as indicators of ground-water contamination for each well along with required evaluations under 265.93(b)? | ____ | N/A | |
| 2) Any significant differences from initial background values in up-gradient wells separately identified? | ____ | N/A | |
| 3) Results of the evaluation of ground-water surface elevations? | ____ | N/A | |

*EPA will be proposing (Spring 1982) to replace this reporting requirement with an exception reporting system where reports will be submitted only where maximum contaminant levels or significant changes in the contamination indicators or other parameters are observed. EPA has delayed compliance stage for 14 a) above until August 1, 1982 (Federal Register, February 23, 1982, p.7841-7842) to be coupled with exception reporting in the interim.

APPENDIX B

## GROUND-WATER MONITORING AND ALTERNATE SYSTEM TECHNICAL INFORMATION FORM

1.0 Background Data:

Company Name: Lenox Incorporated ; EPA I.D.#: NJD002325074

Company Address: Tilton Road
Pomona, New Jersey

Inspector's Name: J. Torlucci, Jr. ; Date: 31 August 1982

1.1 Type of facility (check appropriately):

| | | |
|---|---|---|
| 1.1.1 | surface impoundment | ✓ |
| 1.1.2 | landfill | |
| 1.1.3 | land treatment facility | |
| 1.1.4 | disposal waste pile | |

1.2 Has a ground-water monitoring system been established? (Y/N) Y

1.2.1 Is a ground-water quality assessment program outlined or proposed? (Y/N) N

If Yes,

1.2.2 Was it reviewed prior to the site visit? (Y/N) N/A

1.3 Has a ground-water quality assessment program been implemented or proposed at the site? (Y/N) N

If yes, Appendix C, Ground-Water Quality Assessment Program Technical Information Form must be utilized also.

2.0 Regional/Facility Map(s)

2.1 Is a regional map of the area, with the facility delineated, included? (Y/N) N

If yes,

2.1.1 What is the origin and scale of the map? N/A

2.1.2 Is the surficial geology adequately illustrated? (Y/N) N/A

2.1.3 Are there any significant topographic or surficial features evident? (Y/N) N/A

If yes, describe _____

_____

2.1.4 Are there any streams, rivers, lakes, or wet lands near the facility? (Y/N) N/A

If yes, indicate approximate distances from the facility _____

_____

_____

2.1.5 Are there any discharging or recharging wells near the facility? (Y/N) N/A

If yes, indicate approximate distances from the facility. _____

[Two on-site pumping wells]

_____

2.2 Is a regional hydrogeologic map of the area included? (This information may be shown on 2.1) (Y/N) N

If yes:

2.2.1 Are major areas of recharge/dishcarge shown? (Y/N) N/A

If yes, describe. _____

_____

_____

2.2.2 Is the regional ground-water flow direction indicated? (Y/N) N/A

2.2.3 Are the potentiometric contours logical? (Y/N) N/A
If not, explain. _____

_____

_____

2.3 Is a facility plot plan included? (Y/N) Y

2.3.1 Are facility components (landfill areas, impoundments, etc.) shown? (Y/N) Y

2.3.2 Are any seeps, springs, streams, ponds, or wetlands indicated? (Y/N) N

2.3.3 Are the locations of any monitoring wells, soil borings, or test pits shown? (Y/N) N

2.3.4 Is the facility a multi-component facility? (Y/N) Y

If yes:

2.3.4.1 Are individual components adequately monitored? (Y/N) N

2.3.4.2 Is a Waste Management Area delineated? (Y/N) N

2.4 Is a site water table (potentiometric) contour map included? (Y/N) N

If yes,

2.4.1 Do the potentiometric contours appear logical based on topography and presented data? (Consult water level data) (Y/N) N/A

2.4.2 Are groundwater flowlines indicated? (Y/N) N/A

2.4.3 Are static water levels shown? (Y/N) N/A

2.2.4 May hydraulic gradients be estimated? (Y/N) N/A

2.4.5 Is at least one monitoring well located hydraulically upgradient of the waste management area(s)? (Y/N) N/A

2.4.6 Are at least three monitoring wells located hydraulically downgradient of the waste management area(s)? (Y/N) N/A

2.4.7 By their location, do the upgradient wells appear capable of providing representative ambient groundwater quality data? (Y/N) N/A

If no, explain. _____

_____

_____

## 3.0 Soil Boring/Test Pit Details

3.1 Were soil borings/test pits made under the supervision of a qualified professional? (Y/N) Y

If yes,

3.1.1 Indicate the individual(s) and affiliation(s): A.C. Schultes and Sons

3.1.2 Indicate the drilling/excavating contractor, if known A.C. Schultes and Sons

3.2 If soil borings/test pits were made, indicate the method(s) of drilling/excavating:

- Auger (hollow or solid stem) Not indicated
- Mud rotary
- Air rotary
- Reverse rotary
- Cable tool
- Jetting
- Other, including excavation (explain)

3.3 List the number of soil borings/test pits made at the site

3.3.1 Pre-existing 3

3.3.2 For RCRA compliance –

3.4 Indicate borehole diameters and depths (if different diameters and depths use TABLE B-1).

3.4.1 Diameter:

3.4.2 Depth: ~ 800 feet

3.5 Were lithologic samples collected during drilling? (Y/N) Y

If yes,

3.5.1 How were samples obtained? (Check method(s))

- Split spoon ✓
- Shelby tube, or similar
- Rock coring
- Ditch sampling
- Other (explain)

3.5.2 At what interval were samples collected? Not indicated

3.5.3 Were the deposits or rock units penetrated described? (boring logs, etc.) (Y/N) Y

3.6 If test pits were excavated at the site, describe procedures. N/A

4.0 Well Completion Detail

4.1 Were the wells installed under the supervision of a qualified professional? (Y/N) Y

If yes:

4.1.1 Indicate the individual and affiliation, if known A.C. Schultes and Sons

4.1.2 Indicate the well construction contractor, if known A.C. Schultes and Sons

4.2 List the number of wells at the site

4.2.1 Pre-existing 3 - 2 presently active

4.2.2 For RCRA Compliance -

4.3 Well construction information (fill out INFORMATION TABLE B-2)

4.3.1 If PVC well screen or casing is used, are joints (couplings): N/A

- Glued on
- Screwed on

4.3.2 Are well screens sand/gravel packed? (Y/N) Not indicate (NI)

4.3.3 Are annular spaces sealed? (Y/N) NI

If yes, describe:

- bentonite slurry ____
- Cement grout ____
- Other (explain) _____

_____

- Thicknesses of seals _____

4.3.4 If "open hole" wells, are the cased portions sealed in place? (Y/N) N/A

If yes, describe how: _____

_____

_____

4.3.5 Are there cement surface seals? (Y/N) NI

If yes,

- How thick? _____

4.3.6 Are the wells capped? (Y/N) Y (pumping wells)

If yes,

- Do they lock? (Y/N) ____

4.3.7 Are protective standpipes cemented in place? (Y/N) N/A

4.3.8 Were wells developed? (Y/N) NI

If yes, check appropriate method(s):

- Air lift pumping ____
- Pumping and surging ____
- Jetting ____
- Bailing ____
- Other (explain) _____

_____

5.0 Aquifer Characterization

5.1 Has the extent of the uppermost saturated zone (aquifer) in the facility area been defined? (Y/N) Y

If yes,

5.1.1 Are soil boring/test pit logs included? (Y/N) Y

5.1.2 Are geologic cross-sections included? (Y/N) N

5.2 Is there evidence of confining (low permeability) layers beneath the site? (Y/N) N

If yes,

5.2.1 Is the areal extent and continuity indicated? (Y/N) N/A

5.2.2 Is there any potential for saturated conditions (perched water) to occur above the uppermost aquifer? (Y/N) N/A

If yes, give details: _____

a) Should or is this perched zone being monitored? (Y/N) N/A

Explain _____

5.2.3 What is the lithology and texture of the uppermost saturated zone (aquifer)? Cohansey Sand

5.2.4 What is the saturated thickness, if indicated? ~180 feet

5.3 Were static water levels measured? (Y/N) N

If yes,

5.3.1 How were the water levels measured (check method(s)).

- Electric water sounder ____
- Wetted tape ____
- Air line ____
- Other (explain) _____

5.3.2 Do fluctuations in static water levels occur? (Y/N) N/A

If yes,

5.3.2.1 Are they accounted for (e.g. seasonal, tidal, etc.)? (Y/N) N/A

If yes, describe: _____

5.3.2.2 Do the water level fluctuations alter the general ground-water gradients and flow directions? (Y/N) N/A

If yes,

5.3.2.3 Will the effectiveness of the wells to detect contaminants be reduced? (Y/N) N/A

Explain _____

_____

_____

5.3.2.4 Based on water level data, do any head differentials occur that may indicate a vertical flow component in the saturated zone? (Y/N) N/A

If yes, explain _____

_____

_____

5.4 Have aquifer hydraulic properties been determined? (Y/N) N

If yes,

5.4.1 Indicate method(s):

- Pumping tests ____
- Falling/constant head tests ____
- Laboratory tests (explain) _____

_____

_____

5.4.2 If determined, what are the values for:

- Transmissivity ____
- Storage coefficient ____
- Leakage ____
- Permeability ____
- Porosity ____
- Specific capacity ____

5.4.3 In cases where several tests were undertaken, were discrepancies in the results evident? (Y/N) N/A

If yes, explain _____

_____

5.4.4 Were horizontal ground-water flow velocities determined? (Y/N) N/A

If yes, indicate rate of movement _____

_____

6.0 Well Performance

6.1 Are the monitoring wells screened in the uppermost aquifer? (Y/N) N

6.1.1 Is the full saturated thickness screened? (Y/N) N

6.1.2 For single completions, are the intake areas in the: (check appropriate levels)

- Upper portion of the aquifer ____
- Middle of the aquifer ____
- Lower portion of the aquifer ____

6.1.3 For well clusters, are the intake areas open to different portions of the aquifer? (Y/N) N/A

6.1.4 Do the intake levels of the monitoring wells appear to be justified due to possible contaminant density and groundwater flow velocity? (Y/N) N

7.0 Ground-Water Quality Sampling

7.1 Is a sampling (groundwater quality) program and schedule included? (Y/N) N*

7.2 Are sample collection field procedures clearly outlined? (Y/N) N/A

7.2.1 How are samples obtained: (check method(s))

- Air lift pump ____
- Submersible pump ____
- Positive displacement pump ____
- Centrifugal pump ____
- Peristaltic or other suction-lift pump ____
- Bailer ____
- Other (describe) _____

_____

7.2.2 Are all wells sampled with the same equipment and procedures? (Y/N) N/A

If no, explain _____

_____

_____

7.2.3 Are adequate provisions included to clean equipment after sampling to prevent cross-contamination between wells? (Y/N) N/A

* Samples are obtained from the pumping wells. A sampling and analysis plan in compliance with 265.92(a) will be developed and implemented following establishment of the ground-water monitoring system.

7.2.4 Are organic constituents to be sampled? (Y/N) N

If yes,

7.2.4.1 Are samples collected with equipment to minimize absorption and volatilization? (Y/N) N/A

If yes,

Describe equipment _____

_____

_____

8.0 Sample Preservation and Handling

8.1 Have appropriate sample preservation and preparation procedures been followed (filtration and preservation where appropriate)? (Y/N) NI

8.2 Are samples refrigerated? (Y/N) NI

8.3 Are EPA recommended sample holding period requirements adhered to? (Y/N) NI

8.4 Are suitable container types used? (Y/N) NI

8.5 Are provisions made to store and ship samples under cold conditions (ice packs, etc.)? (Y/N) NI

8.6 Is a chain of custody control procedure clearly defined? (Y/N) NI

8.7 Is a specific chain of custody form illustrated? (Y/N) N

If yes,

8.7.1 Will this form provide an accurate record of sample possession from the moment the sample is taken until the time it is analyzed? (Y/N) N/A

9.0 Sample Analysis and Record Keeping

9.1 Is sample analysis performed by a qualified laboratory? (Y/N) Y

Indicate lab Century Laboratories

9.2 Are analytical methods described in the records? (Y/N) N

9.2.1 Are analytical methods acceptable to EPA? (Y/N) NI

9.3 Are the required drinking water suitability parametters tested for? (Y/N) N

9.4 Are the required groundwater quality parameters tested for? (Y/N) N

9.5 Are the required groundwater contamination indicator parameters tested for? (Y/N) N

9.6 Are any analytical parameters determined in the field? (Y/N) N

Identify:

- pH ____
- Temperature ____
- Specific conductance ____
- Other (describe) ____

9.7 Is a plan included to record information about each sample collected during the groundwater monitoring program? (Y/N) N

9.7.1 Are field activity logs included? (Y/N) N/A

9.7.2 Are laboratory results included? (Y/N) N/A

9.7.3 Are field procedures recorded? (Y/N) N/A

9.7.4 Are field parameter determinations included? (Y/N) N/A

9.7.5 Are the names and affiliation of the field personnel included? (Y/N) N/A

9.8 Are statistical analyses planned or shown for all water quality results where necessary? (Y/N) N

9.8.1 Is an analysis program set-up which adheres to EPA guidelines? (Y/N) N/A

9.8.2 Is Student's t-test utilized? (Y/N) N/A
If other evaluation procedure used, identify ____

9.8.3 Are provisions made for submitting analysis reports to the Regional Administrator? (Y/N) N/A

10.0 Site Verification

10.1 Plot Plan indicating the locations of various facility components, ground-water monitoring wells, and surface waters? (Y/N Y)

10.1.1 Is the plot plan used for the inspection the same as in the monitoring program plan documentation? (Y/N) Y

If not, explain ____

10.1.2 Are all of the components of the facility identified during the inspection addressed in the monitoring program documentation? (Y/N) Y

If not, explain _____

_____

10.1.3 Are there any streams, lakes or wetlands on or adjacent to the site? (Y/N) N

If yes, indicate distances from waste management areas _____

_____

_____

10.1.4 Are there any signs of water quality degradation evident in the surface water bodies? (Y/N) N

If yes, explain _____

_____

_____

10.1.5 Is there any indication of distressed or dead vegetation on or adjacent to the site? (Y/N) N

If yes, explain _____

_____

_____

10.1.6 Are there any significant topographic or surficial features on or near the site (e.g., recharge or discharge areas)? (Y/N) N

If yes, explain _____

_____

10.1.7 Are the monitor well locations and numbers in agreement with the monitoring program documentation? (Y/N) Y

If no, explain _____

_____

10.1.7.1 Were locations and elevations of the monitor wells surveyed into some known datum? (Y/N) N

If not, explain Present monitoring wells are the two on-site pumping wells

10.1.7.2 Were the wells sounded to determine total depth below the surface? (Y/N) N

If not, explain _____

_____

10.1.7.3 Were discrepancies in total depth greater than two feet apparent in any well? (Y/N) N/A

If yes, explain _____

_____

10.1.8 Was ground water encountered in all monitoring wells? (Y/N) Not investigated

If not, indicate which well(s) were dry Since they are pumping wells, it is assumed that ground water will be encountered.

10.1.9 Were water level elevations measured during the site visit? (Y/N) N

If yes, indicate well number and water level elevation _____

_____

If not, explain The monitoring wells are used for production; therefore, water levels were not measured.